Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A system for allocating a supply of a component, the system comprising:

a) a **computerized** database containing **electronically readable** information related to said component, said information describing the supply and changes to the supply, said information defining variables comprising:

ω_{CS}, ω_R, ω_M, and ω_I representing weightings for customer service, revenue, margin, and inventory for said component,

γ_{CS}, γ_R, γ_M, and γ_I representing scaling factors for customer service, revenue, margin, and inventory for said component,

x_{it} is a binary variable,

δ_{it} representing a scaling factor to give preference for shipping orders on-time versus shipping late or early,

α_i representing a revenue associated with a demand i,

β_i representing a margin associated with said demand i,

c_j representing a standard cost of an item j,

u_{jkt} representing a quantity of consumed inventory,

t_{jk} representing a quantity of issued inventory,

I_{jt} representing an inventory of an item j at end of a time period t,

M representing a number of independent demands, and

T representing a number of time periods; and

b) a **computerized** supply planner that **automatically** produces a supply plan using synchronized allocation through an objective function:

$$\max\left[\omega_{cs}\gamma_{cs}\sum_{i=1}^{M}\sum_{t=1}^{T}\delta_{it}x_{it} + \omega_R\gamma_R\sum_{i=1}^{M}\left(\alpha_i\sum_{t=1}^{T}x_{it}\right) + \omega_M\gamma_M\sum_{i=1}^{M}\left(\beta_i\sum_{t=1}^{T}x_{it}\right)\right.$$

$$-\omega_I \gamma_I \left(\sum_{j=1}^{M} \left(c_j \sum_{t=1}^{T} I_{jt} \right) + \sum_{j=1}^{M} \left(c_j \sum_{k=1}^{T} \left(t_{jk} - \sum_{t=1}^{T} u_{jkt} \right) \right) \right) \Bigg]$$

2. (cancelled)

3. (currently amended) The system of claim 1 further comprising a **computerized** resource optimizer, wherein said resource optimizer uses **automated** matched sets logic.

4. (currently amended) The system of claim 1 further comprising a **computerized** product attribute defining tool.

5. (currently amended) The system of claim 4, wherein said **computerized** product attribute defining tool [[allows]] **that accepts engineering specification information from** a user **and** [[to]] **automatically** defines the component by using **the** [[an]] **electronically readable** engineering specification **information**.

6 (currently amended) The system of claim 1 further including a **computerized** constraint-based master planner, whereby said constraint-based master planner allows a user to **automatically** specify one or more **electronically readable** goals to be considered by the **computerized** supply planner.

7. (currently amended) The system of claim 6, wherein said goals comprise:

a [[the]] maximization of revenue,

a maximization of margin,

a maximization of inventory, or

a maximization of customer service.

PAGE 5/12 * RCVD AT 4/8/2004 12:35:04 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/1 * DNIS:8729306 * CSID: * DURATION (mm-ss):03-24

8. (currently amended) The system of claim 1 further comprising a **computerized** product change analyzer, wherein said product change analyzer **automatically** compares the effects of a change **to** [[in]] the supply at different times.

9. (currently amended) The system of claim 1 further comprising a **computerized** comparer, wherein said comparer **automatically** assesses differences in **an electronically readable first** supply plan for the supply of the component and **an electronically readable second** supply plan for a modified supply of the component.

10. (currently amended) The system of claim 1 further comprising a **computerized** resource requirements planner, wherein said resource requirements planner **automatically** suggests a change in the supply to address a shortage identified by the supply planner.

11. (currently amended) The system of claim 1 further comprising a **computerized** finite resource planner wherein said finite resource planner **automatically** suggests an optimal use of the supply to address a shortage identified by the **computerized** supply planner.

12. (currently amended) The system of claim 1 further comprising a **computerized** customer promiser, wherein said **computerized** customer promiser:

automatically determines a remainder of the supply following implementation of the supply plan, and

automatically assesses [[accesses]] feasibility of a new order using on the remainder.

13. (currently amended) The system of claim 1 further comprising a[[n]] **computerized** interactive master scheduler.

14. (currently amended) The system of claim 1, wherein said database comprises **electronically readable** input data, **electronically readable** user-specified data, and **electronically readable** output data.

15. (currently amended) A method for allocating a supply of a component, the method comprising the steps of:

a) forming a database **on a computer, said database** containing **electronically readable** information related to said component, said information describing the supply and changes to the supply, said information defining variables comprising:

ω_{CS}, ω_R, ω_M, and ω_I representing weightings for customer service, revenue, margin, and inventory for said component,

γ_{CS}, γ_R, γ_M, and γ_I representing scaling factors for customer service, revenue, margin, and inventory for said component,

x_{it} is a binary variable,

δ_{it} representing a scaling factor to give preference for shipping orders on-time versus shipping late or early,

α_i representing a revenue associated with a demand i,

β_i representing a margin associated with said demand i,

c_j representing a standard cost of an item j,

u_{jkt} representing a quantity of consumed inventory,

t_{jk} representing a quantity of issued inventory,

I_{jt} representing an inventory of an item j at end of a time period t,

M representing a number of independent demands, and

T representing a number of time periods; and

b) **said computer automatically** producing an **electronically readable** supply plan using synchronized allocation through an objective function:

$$\max\left[\omega_{cs}\gamma_{cs}\sum_{i=1}^{M}\sum_{t=1}^{T}\delta_{it}x_{it}+\omega_R\gamma_R\sum_{i=1}^{M}\left(\alpha_i\sum_{t=1}^{T}x_{it}\right)+\omega_M\gamma_M\sum_{i=1}^{M}\left(\beta_i\sum_{t=1}^{T}x_{it}\right)-\omega_I\gamma_I\left(\sum_{j=1}^{M}\left(c_j\sum_{t=1}^{T}I_{jt}\right)+\sum_{j=1}^{M}\left(c_j\sum_{k=1}^{T}\left(t_{jk}-\sum_{t=1}^{T}u_{jkt}\right)\right)\right)\right]$$

PAGE 7/12 * RCVD AT 4/8/2004 12:35:04 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/1 * DNIS:8729306 * CSID: * DURATION (mm-ss):03-24

16. (currently amended) The method of claim 15, wherein said **computer** [[information]] **automatically** defines the component using an **electronically readable** engineering specification.

17. (cancelled)

18. (currently amended) The method of claim 15 further comprising the step of **computerized** optimizing **of** the supply using **automated** matched sets logic.

19. (currently amended) The method of claim 15 further comprising the step of **computerized** specifying **of** one or more goals to be considered in the step of producing a supply plan.

20. (currently amended) The method of claim 15 further comprising the steps of:

a) **computerized** modifying **of** said database to reflect a change in the supply at a first time;

b) **computerized** preparing **of** a first supply plan for said first modified database;

c) **computerized** modifying **of** said database to reflect the change in the supply at a second time;

d) **computerized** preparing **of** a second supply plan for said second modified database; and

e) **computerized** comparing **of** the effects of said first and said second supply plans.

21. (currently amended) The method of claim 15 further comprising the steps of

a) **computerized** modifying **of** said database to reflect a change in the supply;

b) **computerized** preparing **of** a modified supply plan for said modified database; and

c) **computerized** comparing **of** the effects said supply plan and said modified supply plan.

PAGE 8/12 * RCVD AT 4/8/2004 12:35:04 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/1 * DNIS:8729306 * CSID: * DURATION (mm-ss):03-24

22. (currently amended) The method of claim 15 further comprising the steps of:

a) **computerized** identifying **of** a shortage in the supply created in said supply plan; and

b) **computerized** modifying **of** use of said supply to address said shortage.

23. (currently amended) The method of claim 15 further comprising the steps of:

a) **computerized** identifying a shortage in the supply created in said supply plan; and

b) **computerized** modifying said supply plan address said shortage.

24. (currently amended) The method of claim 15 further comprising the steps of

a) **computerized** determining **of** a remainder of the supply following implementation of the supply plan, and

b) **computerized** accessing **of** [[the]] feasibility of a new order using the remainder.

25. (currently amended) A program storage device readable by a machine, tangibly embodying a program of instructions executable by a machine to perform method steps of:

a) **said machine** forming **an electronically readable** database containing information related to a supply of a component, said information describing the supply and changes to the supply, said information defining variables comprising:

ω_{CS}, ω_R, ω_M, and ω_I representing weightings for customer service, revenue, margin, and inventory for said component,

γ_{CS}, γ_R, γ_M, and γ_I representing scaling factors for customer service, revenue, margin, and inventory for said component,

x_{it} is a binary variable,

δ_{it} representing a scaling factor to give preference for shipping orders on-time versus shipping late or early,

a_i representing a revenue associated with a demand i,

β_i representing a margin associated with said demand i,

c_j representing a standard cost of an item j,

u_{jkt} representing a quantity of consumed inventory,

PAGE 9/12 * RCVD AT 4/8/2004 12:35:04 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/1 * DNIS:8729306 * CSID: * DURATION (mm-ss):03-24

t_{jk} representing a quantity of issued inventory,

I_{jt} representing an inventory of an item j at end of a time period t,

M representing a number of independent demands, and

T representing a number of time periods;

b) **said machine** using synchronized allocation and matched sets logic to **automatically** produce a supply plan for said supply through an objective function:

$$\max\left[\omega_{cs}\gamma_{cs}\sum_{i=1}^{M}\sum_{t=1}^{T}\delta_{it}x_{it}+\omega_{R}\gamma_{R}\sum_{i=1}^{M}\left(\alpha_{i}\sum_{t=1}^{T}x_{it}\right)+\omega_{M}\gamma_{M}\sum_{i=1}^{M}\left(\beta_{i}\sum_{t=1}^{T}x_{it}\right)\right.$$

$$\left.-\omega_{I}\gamma_{I}\left(\sum_{j=1}^{M}\left(c_{j}\sum_{t=1}^{T}I_{jt}\right)+\sum_{j=1}^{M}\left(c_{j}\sum_{k=1}^{T}\left(t_{jk}-\sum_{t=1}^{T}u_{jkt}\right)\right)\right)\right];$$

; and

c) **said machine automatically** allocating said supply using said supply plan.

26. (currently amended) The program storage device readable of claim 25, **wherein the method steps performed by said program on instructions** further comprise [[ing]] **said machine automatically defining** [[a product attribute defining tool that allows a user to define]] the component by using an engineering specification.

27. (currently amended) The program storage device readable of claim 25, wherein the performed method steps **performed by said program instructions** further comprise:

a) **said machine automatically** identifying a shortage in the supply created in said supply plan; and

b) **said machine automatically** modifying said supply plan **to** address said shortage.

PAGE 10/12 * RCVD AT 4/8/2004 12:35:04 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/1 * DNIS:8729306 * CSID: * DURATION (mm-ss):03-24